

# Lepidoptera Heterocera from the summit of Mt. Tanggamus, 2100 m, in Southern Sumatra

(with 2 plates and 8 textfigures)

by

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In 1934, Mr. Lieftinck and Dr. L. J. Toxopeus collected nocturnal insects on the summit of the volcano Tanggamus, 2100 m, in the Lampongs, Southern Sumatra. Most of the Lepidoptera Heterocera — a nice and remarkable collection — were placed at my disposal; in the following, they are enumerated critically. The collection is not very large, but it is a very interesting one, throwing new light not only on the geographical distribution of certain species, but also on their vertical occurrence, though it must be admitted that they were perhaps partially attracted, by the lamp light, from lower regions. There were, furthermore, some new species or forms, which is not amazing, the Heterocerous fauna of this large Island being still so imperfectly known that every collection of any importance contains some species or forms new to science. If not indicated otherwise, the type-specimens are incorporated in the Leiden Museum. I have to thank Mr. Lieftinck, of the Zoological Museum of Buitenzorg, for the opportunity he gave me to study this material.

The collection consists of so-called *Bombycidae*, *Noctuidae* and *Geometridae*, they are treated here with exception of the *Geometridae*. The literature concerned, chiefly publications by Snellen, Rothschild, van Eecke, Miss Prout a.o., is mentioned at the end of this paper. For comparison, I had a rich Sumatra material in the collection of the Entomological Laboratory, furthermore I had full access to the large Leiden collection.

Fam. *Zygaenidae*, subfam. *Chalcosiinae*.

1. *Eterusia costimacula lampongana* n. subsp. Pl. XIII, fig. 1 ♀.

Aur. (1894) 196 ♂, f. a ♂, f. a ♂ (*Soritia costimacula*): Java; id. ib. 196 ♀, f. b ♀ (*leptalinoides*): Java; id. ib. 170 ♀, f. c ♀ (*ochracea*): Java. — Sn. (1902) 204 ♂ ♀ (*leptalina* nec Koll.): Sum. &c. — Dohrn (1906) 178 (*Et. costum. battakorum*): N. E.-Sum. — Jord. - S. X (1911) 32, pl. 6 ♂ ♀. — van E. (1930) 24.

10 ♂ ♂, 30—33 mm; 1 ♀, 38 mm, holotypus.

Geogr. Distr.: Mal.; Sum.; Java.

The nominotypical *E. costimacula costimacula* is widely distributed in the mountains of Java, though it is not numerous. The species is not only sexually heteromorphic, but the ♀ displays an obvious dimorphism. The topotypical ♀, from Java, was described by Aur. l.c. as *leptalinoides*, this name, however, must be dropped as a mere synonym. The fw. are greyish black, with a white yellowish basal streak, a median band and a subapical patch. Hw. yellowish white, with a broad, greyish marginal band, not reaching anal angle. The other ♀, described as *ochracea* by Aur. l.c., has the fw. yellow, with its outer half slightly darkened, with a light one and some darker dots. Hw. lighter yellow, with some dark marginal dots.

The first subsp. described from Sum., is *battakorum* Dohrn, from

N.E. Sum. It is characterized by the absence of the yellow basal streak in ♂ fw. I have a ♂ from Mt. Sinabang, Sum. E.C., leg. F u l m e k, 2.26, apparently belonging to this subsp. It agrees with f. *ochracea* from Java, but the entire coloration is more vivid, the outer half of fw. dark greyish brown, contrasting sharply by the yellow basal part. Hw. brighter yellowish, along outer margin slightly orange, with a strong, deeply brownish black marginal band reaching about  $n_{1b}$ .

The new subsp. from the Lampongs, agrees in the ♂ rather with the nominotypical species from Java, regarding the basal streak in the ♂ fw. In the only ♀, corresponding with the nominotypical ♀ from Java, this streak is lacking. The fw. are intensely greyish sepia, with the light median band narrow, the subapical dot small. The hw. are white, with the grey marginal band broad, reaching anal angle, here it has a metallic blue hue and in the apex, it has vaguely a white dot.

This form from the Lampongs apparently shows intermediate characters between *costimacula* from Java and *battakorum* from N.E. Sum., the ♂ more agreeing with the former, the ♀ approaching the latter.

## 2. *Chalcosia phalaenaria coliadoides* Wlk.

G u é r. (1843) 84, pl. 24 f. 1 (*phal.*); Java. — Wlk. (1862) 87 ♀ (*coliad.*); N.-Born. — S n. (1895) 132 (*phal.*); id. (1903) 179 ♂ ♀, pl. 13, f. 1 (1.) (*Amesia*); Java. — J o r d. - S. X (1911) 38, pl. 7 c. — v a n E. (1930) 28 (*phal. col.*).

1 ♀, 55 mm.

Geogr. distr.: Indochina; Burma; Siam; Mal.; Sum.; Java; Born.

I think that the only ♀ belongs to this subsp., having the marginal band in fw. more reduced to streak-like dots, than in the Javanese form.

In Java, the species is not rare in the lower hills. Here it is the commonest Chalcosiid, flying even on cultivated land at day-time.

Fam. *Lithosiidae*, subfam. *Nolinae*.

## 3. *Celama sumatrana* n.sp. Pl. XIV fig. 5 ♀.

♀. A small, inconspicuous, greyish white species showing by its characteristic fw.-venation that it belongs to *Celama*;  $n_{6-8}$  stalked,  $n_9$  and  $n_{10}$  wanting,  $n_{11}$  free, originating slightly before upper angle of mc.

Fw. whitish grey, with indistinct, darker greyish or blackish transversal bands, more distinct in center. On the veins they form small, black dots. Postmedian area somewhat lighter, with an indistinct, grey, undulating antemarginalis. Cilia rather uniform whitish grey. Hw. more pure white, along costa and termen slightly greyish, cilia white. Antennae filiform, light grey; palpi porrect, a little curved downwards, third joint short, the second enlarged and broader, whitish, outer surface more greyish. Tarsi of fore and median legs annulate, hind legs more uniformly whitish.

5 ♀ ♀, ca 18 mm, holo- and paratypes.

## 4. *C. vicina* n.sp. Pl. XIV fig. 6 ♀.

Similar to the preceding species, the fw. purer white, with more scattered greyish black scales, which form a dark median band, beginning narrow at costa and ending broad at hind margin. Palpi upperside, head, patagia and tegumina purer white.

1 ♀, 17 mm, holotypus.

## 5. *C. indefinita* n.sp. Pl. XIV, fig. 7 ♀.

Judging from the fw.-venation, also a typical *Celama*. Palpi, head, thorax fw. and hw. upperside white, with scattered, greyish brown scales,

except on hw. They accumulate on fw. into indistinct, undulating, transverse bands. A strongly serrate submarginalis, an undulating, double postmediana and especially a dark, strongly dentate antemediana can be distinguished. Cilia whitish, grading into light grey, slightly dotted. Hw. white, termen shaded with grey. Uns. fw. grey, of hw. white, with a weak grey dot on dc, also visible on ups.

1 ♀, 18 mm, holotypus.

6. *Nola melanota* H p s. (Mr. T a m s det.).

H p s. II (1900) 35, pl. 19, f. 3; Himalayas. — Seitz X (1913) 108, pl. 13a. — v a n E. (1920) 118 (*mel. javanica*): Java; id. (1930) 85: Sum.

1 ♀, 21 mm.

Geogr. distr.: Himal.; Khas.; Sum.; Java.

7. *Roeselia monticola* n.sp. Pl. XIV, fig. 8 ♀.

Head, thorax and fw. pure white, with three grey dots along costa fw., respectively near base, median area and apex. The median dot produces an indistinct, narrow band, reaching hind margin. Tornus with light greyish brown, bordered by  $n_5$ . Above it, several grey dots. Cilia grey; hw. including cilia grey. Uns. including legs rather uniformly grey, tarsi annulate.

1 ♀, 19 mm, holotypus.

Mr. T a m s, who kindly examined the species, wrote: "resembles *Roes. irregularis*, but is not".

Subfam. *Lithosiinae*.

8. *Agylla culminicola* n.sp. Pl. XIII, fig. 2 ♂, 3 ♀; pl. XIV, f. 1 (♂ gen.)

Though the wing venation is not quite the same as pointed out by v a n E e c k e (1930) 158, I don't hesitate to include this species in *Agylla*. Fw. with  $n_5$  present, originating from near base of  $n_4$ ; with areola. Hw. with  $n_5$  also present, shortly stalked with  $n_4$ ;  $n_3$  free from lower angle of mc;  $n_{6-7}$  longer stalked;  $n_8$  distinctly from before middle of upper cell border.

♂. Antennae rather strongly bipectinate, pectinations reaching tip. Palpi upturned, reaching hardly  $\frac{1}{2}$  of head, third joint short, but distinctly separate from second joint. Ups. without markings, brownish grey, in well preserved specimens with a violet tinge, below cell darker, blackish, the tinge rather metallic greenish. Along costa an indistinct, narrow, yellowish streak. Hind margin with a sharp, yellowish white streak. Cilia greyish brown. Hw., including cilia, uniformly light greyish yellow. Underside of wings about the same as upperside. Antennae brown, upperside of head with palpi, of thorax and abdomen greyish brown, with a weak, metallic lustre. Patagia distinctly bordered with orange yellow. Apex of abdomen with a light coloured pilosity above genital apparatus. Underside of abdomen light yellowish, sharply separate from the darker upperside. Legs yellowish brown, fore and median legs outside more or less shaded with brown.

♀ about the same as ♂, but larger; antennae filiform, head more scaled with brownish yellow. Coloration of fw. slightly lighter, the yellow costa more distinct, hind margin, hw. and abdomen upperside light yellowish brown.

♂ ♂, 40—13 mm, holo- and paratypi; 2 ♀ ♀, 46—50 mm, allo- and paratypi. In coll. Wageningen furthermore 1 ♂, 1 ♂, 1 ♀, from Patuhawatee, W. Java, Apr. 1936, leg. T o x o p e u s. The ♂ is obviously smaller and paler, perhaps more worn, therefore I don't dare to erect a

new subspecies. The ♂ genitals, pl. XIV, fig. 1, are short and stout, with the uncus rather long, slightly curved, pointed; valvae broad, rounded, the harpe as a stronger chitinized, pointed appendix at lower margin; the aedeagus short, thick, apparently wrapped in a membrane with very numerous spiculi of different size. Below aedeagus, between the bases of valvae, a short, strongly granulate juxta. Unfortunately these structures are less clear in the photographic figure.

Subfam. *Nyctemerinae*.

9. *Nyctemera sumatrensis* Heyl.

Heyl. (1890) p. XVII: Sum. — Sn. (1895) 141; id. (1899) 23; id. (1899) 111. — Seitz X (1914) 269, pl. 29 f ♂ ♀ (*nesites*). — van E. (1930) 213 ♂ ♀. — Bryk (1937) 81.

1 ♂, 31 mm.

Geogr. distr.: Sum. only.

Unlike many other *Nyctemera*'s, this species is characteristic enough as to be easily recognised. Seitz l.c. gives a good figure; but if van Eecke l.c. states that the figure by Pgst. (1901), pl. 2, f. 6, is worth nothing, I cannot totally agree with him. Pgst.'s figure is excellent, but it represents quite another species, his *sumatrensis* (1901) being not the same as *sumatrensis* Heyl. (1890), but belonging to the so-called "tripunctaria"-group, though the indication of this group is probably wrong; cfr. Sw h.: A.M.N.H. [8] XVIII (1916) 213. Furthermore, it is not quite clear why Seitz l.c. maintains *sumatrensis* Pgst. (1901) whereas there is a *sumatrensis* Heyl. (1890)! Undoubtedly, *nesites* Seitz (1914) is a mere synonym of *sumatrensis* Heyl. (1890), and *sumatrensis* Pgst. (1901) deserves a new name. I propose the name **perconfusa**, indicating the great confusion which has reached a climax in *Nyctemera*. Later authors should take care not to increase the synonymy in this genus.

I have a ♂ and a ♀ of this nice species from Brastagi, Deli, leg. Uil.

10. *N. dentifascia* Sn. Pl. XIII, fig. 12 ♂.

Sn. (1899) 24 ♀, pl. 1, f. 1 ♀: Sum. — Pgst. (1901) 142 ♀. ♀ Seitz X (1914) 269 ♀, pl. 29 f ♀ (*biserrata*). — Rthsch. (1920) 135 (*Deilemera abraxina*). — van E. (1927) 223 (*N. dentif.*). — Talb. (1929) 90 ♀, pl. 4, f. 13 ♀ (*Deil. personata*). — van E. (1930) 210 ♀ (*N. dentif.*). — Bryk (1937) 61.

Geogr. distr.: Sum. only.

1 ♀, 48 mm; 1 ♂, 45 mm, lecto-allotypus.

Also a characteristic species which cannot be confounded with other species. Black markings in fw. more or less reduced so that the white ground colour becomes more extended and prevalent. Only termen rather broad blackish, inner border strongly dentate; costa also largely black as well as a transversal band from tornus to middle of costa, more or less reduced to dots.

The ♂, here mentioned for the first time, similar to the ♀, the specimen under consideration, however, is smaller, the transversal band on fw. more complete,  $n_{1b}$  bearing a greyish black streak. The latter fuses in tornus with the grey marginal and transversal band. Abdomen light yellowish, the grey transversal dots less pronounced.

There can be hardly any doubt that *biserrata* Seitz l.c. is a ♀ of this species, with the black markings more developed so that the white ground colour becomes restricted and the insect more resembles the ordinary *Nyctemera* type. *Biserrata* is either a variation only or a local



form (subsp.?) of *dentifascia*, unfortunately the exact locality is not given.

The Wag. coll. has two more ♀♀ from S. Sum., lowlands, leg. Walsh; both with the black markings still more reduced.

11. *N. arctata* Wlk. Pl. XIII, fig. 11 ♂.

Wlk. VII (1856) 1664 ♂: Cherra Poonjee, Hindost. — Völl. (1863) 50 (*Leptosoma scalarium* de Haan i.l.): Java. — Wlk. XXXI (1864) 198 (*N. maculosa*): Ind. — Sw h. (1892) 147 (*Deil. arct.*). — Hps. (1894) 45, f. 21 ♂ (*Nyct.*). — Pgst. (1898) 199 (*maculata* nec Wlk.): Lombok; id. (1899) 163. — Sw h. (1903) 64. — Schultze (1908) 31 ♀, pl. 1, f. 6 ♀ (*D. browni*): Phil. — Wilem. (1911) 31 ♀ (*albofasciata*): Form. — Seitz (1915) 275, pl. 30 g ♂, h ♀ (*Deil arct.*). — Reich (1932) 237 ♂♀, pl. 1, f. 3 ♂, 7 ♀ (*D. arct. javana*): Java. — Kalis (1934) 14, fgg. ♂♀ (*N.entifascia* nec Sn.). — O. Java. — Bryk (1937) 88 (*Deil.*).

Geogr. Distr.: Form.; Himal.; Burm.; Sum.; Java; Lomb.; Phil.

3 ♂♂, 47—49 mm; 2 ♀♀, 48 mm.

In Java, this moth is a true mountain insect, especially in the Eastern part of the island not rare. The Wag. Coll. has more than 50 specimens from Java, the Leiden Mus. has 36 including the type of *scalarium* Völl., so that the material for study and comparison is abundant. The pattern is rather variable; in the ♂, the light greyish dots in fw. are larger, more numerous, more or less coalescent, until in extreme cases the white groundcolour becomes much reduced, chiefly forming an irregular, transversal band. The hw., however, is always white, except the grey marginal band. Conversely, in the ♀ the dark pattern may be much reduced, resulting in nearly entire white specimens, with only some greyish dots in discus and apex of fw. and with the outer margin in both wings greyish.

The specimens from Mt. Tanggamus have a weak pattern, the dots in fw. being arranged in two median and one marginal row, in hw. the marginal row much reduced. If the specimens from Java might represent a subsp., the name *scalarium* Völl. (1863) has priority above *javana* Reich (1932).

Fam. *Lymantriidae*.

12. *Dasychira strigata* Moore.

Moore (1879) 58 ♀: N. Ind. — Btl. (1881) 59, pl. 91, f. 7 (*ni-veosparsa*): Darj. — Waterh. (1885) pl. 164, f. 4. — Hps. (1893) 449 ♂♀. — Strand-Seitz X (1915) 295, pl. 47 a ♀ (as *nigrosparsa*!). — Coll. (1932) 88 ♂: Mal. — Bryk (1934) 26. — Coll. (1938) 266 ♀: Mal.

3 ♂♂, 50—55 mm.

Geogr. Distr.: India; Mal.

For the first time recorded from Sum. At first, I had identified the specimens as *D. grossa* Pgst., to which they bear a certain resemblance. While reading the proofs, however, Dr. Toxopeus, on leave here, gave as his opinion that this identification may be wrong. Therefore, I sent one specimen to Mr. Collenette, Brit. Mus. N. H., London, who kindly informed me that the species is the same as *D. strigata* of which the Museum had already specimens from Mt. Korintji.

Fam. *Bombycidae*.

13. *Mustilia lieftincki* n.sp. Pl. XIII, fig. 4 ♂.

♂. Head redbrown, adpressedly scaled, the minute palpi lighter red-

dish brown. Base of antennae and frons between it white, pectinations of antennae light reddish brown. Thorax and fw. upperside dull purplish redbrown, the latter thickly scaled, the scales nearly piliform. Under a pocket lens many scattered whitish violet and emerald green or yellowish scales discernible, in both specimens under consideration, the arrangement of these scales is very irregular. Towards base of fw. the scales become darker and longer, forming a more or less silk-like pilosity. Markings indistinct, most obvious an oblique dark line, rather straight from apex and ending in  $c_3$ . Furthermore, there are two very indistinct curved crosslines of which the beginnings at costa are more clearly visible. Hw. in the anterior half lighter, the posterior darker wood brown, with an indistinct double, darker median band, beginning above anal angle and ending in the upper half of wing. Underside of all wings more brownish red, with a darker, double, slightly curved median band. Underside of thorax including the short legs, lighter brownish red. Abdomen above darker purplish brown red, underside somewhat lighter brownish red.

2 ♂♂, 42 and 46 mm, holo- and paratypes.

The species probably comes near *M. phaeopera* H p s. (1910) 83 ♂♀, pl. F., f. 1 ♂: Assam, but differs by the presence of an oblique apical line and the absence of a distinct postmediana in fw., as well as by another coloration and marking of hw.

#### Fam. Drepanidae.

**Allodrepana** n.g. Antennae in ♂ strongly bipectinate, except apical third, in ♀ filiform. Proboscis well developed, palpi minute, thin, straight, slightly adpressed. Fw. with the apex strongly falcate, areola large and broad,  $n_7$  free,  $n_8$  9 on a long stalk,  $n_{10}$  free. Median tibiae with a pair of spurs of unequal length; hind tibiae with two pairs of short spurs. Frenulum in ♂ present, in ♀ wanting.

Typus: *Allodrepana siccifolia* R p k e.

The taxonomic status of the family Drepanidae being still in a less perfect condition, the correct placing of the genus in the system is rather uncertain, probably it comes near *Drepana*, *Tridrepana* and allies.

#### 14. *A. siccifolia* n.sp. Pl. XIII, fig. 9 ♀.

Both sexes resembling each other, rather variable, coloration like that of dry, brown leaves. Fw. with two rather straight, dark brown cross lines, the outer one at costa, near apex, somewhat indistinct. The inner one passes  $n_2$  at base, slightly curved before costa. In the surrounding of dc with three indistinct, dark dots. Hw. with the anterior half lighter brown and without markings, the posterior one shows the darker cross lines, the subbasal one only as a beginning. These cross lines on both wings variable, in one specimen they are rather dilute, in two other ones rather indistinct and double, filled up with lighter coloration.

3 ♂♂, 34—37 mm, holo- and paratypes; 2 ♀♀, 36—37 mm, allo- and paratypes.

#### 15. *Albara sumatrana* n.sp. Pl. XIII, fig. 10 ♀.

♀. Antennae filiform, brownish black. Head adpressedly scaled, deeply brownish black, with some metallic lustre. Fw. olive brown, with two brown cross lines, a short, brown, angled line on dc and some indistinct dots before termen, as in *A. olivacea* W a r r., cfr. S e i t z X (1922) pl. 49 h. Hw. anteriorly slightly lighter grey, shining, without markings; posteriorly with two brown cross lines, the subbasal one short, the median one longer, straight, reaching the anterior, light grey area. Before it, a blackish shade disappearing in the light anterior area. Underside of

all wings vividly grey, rather without markings. Thorax and abdomen upperside darker brownish grey, underside lighter.

1 ♀, 37 mm, holotypus.

The genus *Albara* Wlk. (1866), synonymized by Hps. (1893) 333 with *Drepana* Schr. (1802), contains a number of Indomalayan species of which the mutual relations are not yet completely cleared up. From all the described species, the specimen under consideration is distinguished, superficially at least, by the dark shadowy band on hw. The next allies are: *A. lilacina* Moore (1888) 402; Assam; *simillima* Moore ib., both considered by Hps. l.c., as one and the same species, but treated as different by Warren in Seitz X (1922) 469; furthermore, *agna* Oberth. (1916) 373 ♂ ♀, (1917) pl. 428, f. 3643: Siao-lou, China, and *olivacea* Warr. l.c.: Khas.

The Eastern *Drepanidae* are urgently in need of a taxonomic revision.

#### Fam. Callidulidae.

##### 16. *Callidula jucunda* Fld.

Fld. (1874) pl. 107, f. 25: Java. — Pgst. (1887) 234; id. (1902) 11; id. (1911) 6. — Seitz X (1922) 493, pl. 51 f. — van E. (1930) 355: Sum.

1 ♀, 24 mm.

Geogr. Distr.: Mal.; Sum.; Java; Born.

A small specimen. The bordering of the orange patch in fw. is not quite the same as in my Java specimens, the exterior third being deeply incised by a dentiform projection from below. Hw. upperside not „entirely red” as van E. l.c. states for Sum. specimens, but reddish greybrown. In my Java specimens, it is dark grey brown, costal area in ♂ sharply white. The species is variable according to locality, in future perhaps it may become divided into subsp.

#### Fam. Limacodidae.

##### 17. *Cania striola* Hering.

Hering-S. X (1931) 679, pl. 86 e ♂: Born.; Mal.; Sum.; Java.

1 ♂, 26 mm.

I attribute the only specimen to this species, on account of the much approached cross lines in fw., though it must be admitted that a sharper definition of the species of this genus is very desirable.

#### Fam. Thyrididae.

##### 18. *Rhodoneura myrtaea* Drury.

Drury, II (1773) pl. 2, f. 3: China. — Rpk. (1932) 84: Cel.

1 ♀, 29 mm.

Geogr. Distr.: S.E. Asia, extending to Oceania. According to Hps. (1893) 358 also in the W. Indies (?).

#### Fam. Uraniidae, subf. Microniinae.

##### 19. *Acropteris rectinervata* Gn.

Gn. (1857) 27 ♂ (*Micronia*): Singap. — Pgst. (1884) 257: Amb. — Sn. (1895) 146: Sum. — Gaede-S. X (1929) 100, pl. 72 d. (*Acrop.*).

1 ♂, 31 mm.

Geogr. Distr.: Mal.; Sum.; Born.; Palaw.; Phil.

## Fam. Cossidae.

20. *Zeuzera lineata* G a e d e. Pl. XIII, fig. 13 ♂, text fig. 1.

G a e d e - S. X (1933) 812 ♂, pl. 96 b : Kina Balu, Born.

1 ♂, 66 mm.

The species of the genus *Zeuzera* as well as the entire family of Eastern Cossids are not yet sufficiently worked out, the identification of the species under consideration, for the present, is somewhat uncertain. Text figure 1, representing the ♂ genitals, may be of value to specialists in future.

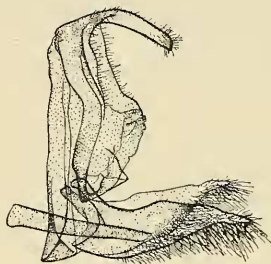


Fig. 1. *Zeuzera lineata* Gaede, ♂ genitals.

## Fam. Thyatiridae.

21. *Habrosyne derasa indica* M o o r e.

L. (1766) 851 : Eur. — M o o r e (1867) 44 (*Gonophora indica*) : Himal. — W a t e r h. (1883—96) pl. 9. — M o o r e (1888) 406 (*H. fraterna*) : Himal. — B t l. (1889) 47, pl. 125, f. 11. — H p s. (1893) 178. — G a e d e - S. X (1930) 658.

1 ♂, 47 mm.

Geogr. Distr.: Eur., Japan and S.E. Asia including Java.

The species is not rare in the mountains of Java and Sum.; the specimens are a little larger and more vividly coloured than those from Central Europe, in fw. the costa more white. The genitals of the Java ♂♂ agree fairly with those of European specimens. As long as the Eastern species or subspecies are not carefully separated, I ascribe them to the oldest known Indian species, i.e. *indica* M o o r e, treating them as a subsp. of the palaearctic *derasa* L. (= *pyritoides* H u f n.).

Recently, B r y k : Ark. Zool. 34A/11 (1942) 6, pl. 1, f. 1 ♂, 3 ♀, has figured the form of the higher mountains from upper Burmah as *H. indica malaisei* with f. *obscurior*. His description is based on a comparison with the European *pyritoides* only, saying that the "Hauptform", in natura, is unknown to him.

Short ago, I described the *Habrosyne* from the mountains of Java, as *H. obscura* in Natuurh. Maandbl. XXX/6 (1944) 48, fig. 32 ♂.

## Fam. Agrotidae, subf. Acronyctinae.

22. *Anepholcia talboti* A. E. P r o u t.

P r o u t (1924) 402 ♂ ♀, pl. 13, f. 9 ♂ : Korintji, Sum.

2 ♂♂, 47—48 mm; 1 ♀, 53 mm.

The genus is separated, by Miss P r o u t l.c., from *Trisuloïdes* B t l.; I think this is correct.



There are two closely related species of this genus which can be separated by the ♂ genital structure, cfr. Prou t (1924) 403. They occur both in the mountains of Sum., whereas one of them, which I ascribe to *pygaria* Warr., is recorded from the mountains of W. Java, cfr. R p k e.: Natuurh. Maandbl. XXXIV/9—10 (1945) 40, fig. 38 ♂, ♀.

23. *Dipthera androdes* A. E. Prou t.

Prou t (1924) 439 ♂ ♀, pl. 13, f. 11 ♂: Korintji, Sum.

3 ♂ ♂, 3 ♀ ♀, 37—44 mm.

Differs from the Indian *D. champa* Moore by the less developed markings in fw. Miss Prou t l.c. has described a nearly related species, *D. tamsi*, from Sum. of which I have quite typical specimens from the mountains of W. Java.

Subf. Agrotinae.

24. *Diarsia stigmatias* Warr. Pl. XIII, fig. 17 ♂; textfig. 2, ♂ genit.

Warr. (1912) 7 ♂ ♀ (*Rhyacia*): N. Guin., 5—6000'. — Warr. - S. XI (1912) 58 ♂ ♀, pl. 7 h ♂ ♀.

7 ♂ ♂, 2 ♀ ♀, 28—30 mm.

Geogr. Distr.: Only known from the mountains of New Guinea.

The specimens before me match rather well the description and figure by Warren - S. l.c. In the ♂, the fw. upperside is beautifully reddish brown, in the ♀, they are darker, more purplish brown. Both reniform and orbiform light and clear, the latter small, the former blackish in its lower part, as already mentioned by Warren.

The species comes near *Rhyacia compta* Wlk., cfr. R p k e. (1938) 6. The ♂ genitals in both agree very much, as shown by the following textfigures 2 and 3. It should be pointed out whether the species figured by H p s., (1893 b) 93, 94, pl. 161, f. 12 as *Amathes ruptistriga* Wlk., ib. pl. 166, f. 20 ♂ as *Semiophora frontalis* Moore and ib. pl. 167, f. 1 ♂ as *S. ochracea* Wlk., all from the Nilgiris, belong to the same group.

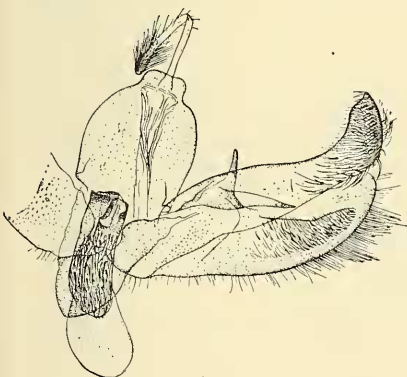


Fig. 2. *Diarsia stigmatias* Warr. ♂ genitals.

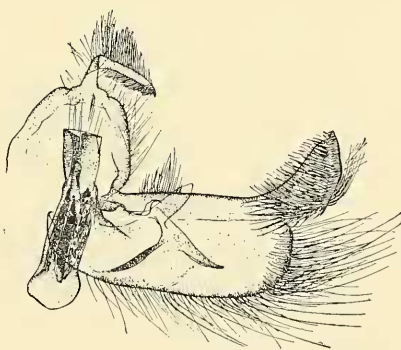


Fig. 3. *Diarsia compta* Wlk. ♂ genitals.

The splitting up of the old genus *Agrotis* O. has recently rather come to an end. For the Nearctic species, the publication of M c D u n n o u g h (1928) is very useful, for the species from N.W. Europe, the list of L e m p k e (1939) may serve as a guide. The latest English publications

have not yet reached me. For the Indo-Malayan species, I am not yet able to produce such a modern arrangement, but I am inclined to place the group under consideration in *Diarsia* H b. (1821), typ. *dahlia* H b.

25. *Magusa tenebrosa* Moore.

Moore (1867) 59 (*Hadena*): Himal. — H p s. (1894) 226, f. 128 ♂ (*Magusa*); id. VII (1908) 58, pl. 109, f. 10. — Warr.-S. XI (1913) 120, pl. 15 c (*Sasunaga*). — de Jo an. (1928) 297: Tonk. 15 Ex., 35—45 mm.

Geogr. Distr.: North India, extending to Australia.

A very variable mountain insect, in Java not rare at higher elevations. A second species is known to me from the mountains of Java, viz. *M. oenistis* H p s., hitherto only recorded from N. Guinea.

The numerous S. African species of the genus are comprehensively and carefully treated by J a n s e (1937), he gives valuable morphological details.

26. *Hadena dissecta* Wlk.

Wlk. XXXII (1865) 656 ♀ (*Heliophobus dissectus*): Ceyl. — Fld. (1874) pl. 109, f. 30 (*Mamestra crucifer*). — Moore (1883) 22, pl. 146, f. 7 (*Hel. diss.*). — H p s. (1894) 200 (*Had.*): Sik.; Ceyl.; id. V (1905) 212. — P. & S. (1906) 35: W.-J. — Warr.-S. XI (1912) 73, pl. 9 g ♂. — de Jo an. (1928) 290: Tonk.

3 ♂♂, 37—40 mm.

Geogr. Distr.: From Jap. and S. China through India; Mal.; Ceyl.; Sum.; Java; Phil.

In Java also restricted to the mountains, in the W. and E. parts of the island not rare. The reticulate pattern of fw. is rather constant and makes the species easily recognizable.

27. *Trachea literata* Moore.

Moore (1882) 124 ♂ (*Dianthoecia*): Sik. — H p s. (1894) 215 ♂ (*Euplexia*); id. VII (1908) 145, pl. 111, f. 14 ♂ (*Trachea*). — Warr.-S. XI (1913) 140, pl. 17 f (*Euplexia*). — Prout (1928) 65 (*Tr. lit. benescripta*): Korintji, 7300'.

4 ♂♂, 1 ♀, 30—31 mm.

Geogr. Distr.: Sik.; Khas.; Sum.; Java.

This beautiful green and rather constant Noctuid is also not rare in the mountains of Java, in the E. part of the island sometimes numerous. The specimens from S. Sum. agree so completely with topotypical ones that I must abstain from accepting Prout's name, given for the specimens from Mt. Korintji.

28. *Proxenus albilineola* Prout. Pl. XIII, fig. 18; textfig. 4, ♂ genit.

Prout (1928) 74 ♂♀ (*Athetis*): Korintji, Sum.

10 ♂♂, 2 ♀♀, 30—34 mm.

Geogr. Distr.: Sum.; Java.

I have this species from the mountains of Java too, where it is not numerous. The diagnosis given by Miss Prout l.c., may be enlarged as follows:

Antennae in both sexes filiform, in ♂ very slightly ciliate. Eyes naked. Palpi straight, porrect, third joint conical, very short, approximately  $\frac{1}{4}$  second joint. The latter about two times as long as broad. In hw.,  $n_5$  very weak or wanting, there may be only a slight fold of the membrane. Fw. with areola,  $n_6$  from upper angle of mc,  $n_7$  and  $n_{8-9}$  (stalked) from areola,  $n_{10}$  from  $\frac{1}{2}$  upper border of areola,  $n_{11}$  from  $\frac{1}{2}$  upper border of mc. Hind legs without spines.

The ♂ genitals, see textfig. 4, are characterized by the wanting of the

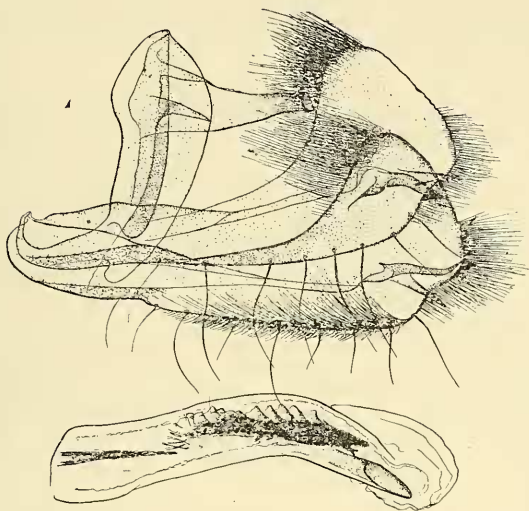


Fig. 4. *Proxenus albilineola* Prout, ♂ genitals.

uncus; in its place the anal tube is more strongly chitinated and elongated. Aedeagus in its interior with a number of densely crowded, dark spiculi and one isolated, long, basal spiculus. I agree with J a n s e (1938) 210, to unite these Noctuids, with the uncus absent, under *Proxenus* H. - S c h., typ. *hospes* F r r.

29. *Pr. praetextus renatus* W a r r. Pl. XIII, fig. 19 ♀, textfig. 5, ♂ genitals.

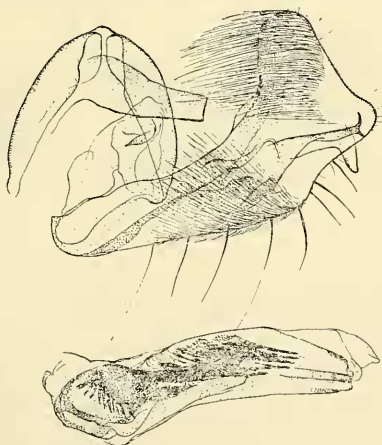


Fig. 5. *Proxenus praetextus* Swh. ♂ genitals.

S w h. (1905) 152 ♂ ♀ (*Caradrina praetexta*): Ass. — H p s. VIII (1909) 316 ♂ ♀, pl. 129, f. 23 (*Athetis*); id. (1912) Khas. — W a r r. - S. XI 324, pl. 28 i (*pr. renata*): Sik.

2 ♀ ♀, 33—35 mm.

Geogr. Distr.: Himal.; Sum.; W. Java.

The species is also known to me from the mountains of W. Java. On account of the wanting uncus I include it into *Proxenus*. See textfig. 5.

30. *Euplexia albovittata culminis* n.ssp. Pl. XIII, fig. 20 ♂, textfig. 6a, b.

M o o r e (1867) 57 ♂ ♀, pl. 6, f. 16 (*albov.*): Sik; id. 1882) 125 ♀, pl. f. f. 25 (*sinuata*): Sik. — W a r r. (1888) 308 (*pectinata*). — H p s. (1891) 14, pl. 143, f. 4 ♂ (*pect.*): Nilg.; id. ib. 77 ♀, pl. 145, f. 20 ♀ (*fasciata*): Nilg.; id. (1894) 217 (*albov.*): id. ib. p. 222 ♂ ♀ (*pect.*). — L e e c h (1900) 68 (*Xylophasia fasciata*): W.-China. — S w h. (1905) 499 (*Eupl. fasc.*): Khas. — H p s. VII 1908) 226; id. (1911) 1059. — W a r r. - S. XI (1913) 136, pl. 17 a (*pect.*; *sin.*; *exangulata*; *rostrifera*; *albov.*; *fasc.*; *distorta*). — P r o u t, A. E. (1922) 203 (*latifascia*): Ceram; id. (1926) 216 ♂ (*albov. melasema*): Mt. Murud, 7200', N.-Born.; id. (1928) 65 ♂ (*leucomelas*): Korintji, 7300'; id. p. 66 ♂ (*albov. albifrons*): Korintji, 5000'; id. ib. p. 67 ♂ (*latilinea*): Korintji, 7300'.

3 ♂ ♂, holo- and paratype; 1 ♀, allotypus, 30—32 mm.

Geogr. Distr.: Mountains of S. China and of S.E.-Asia, reaching Java and Ceram.

Here we have to do with a complicated group of species, subspecies or forms. Or it may be only one "complex-species" which has a wide range, from the Him. through the Indomalayan mountain systems,

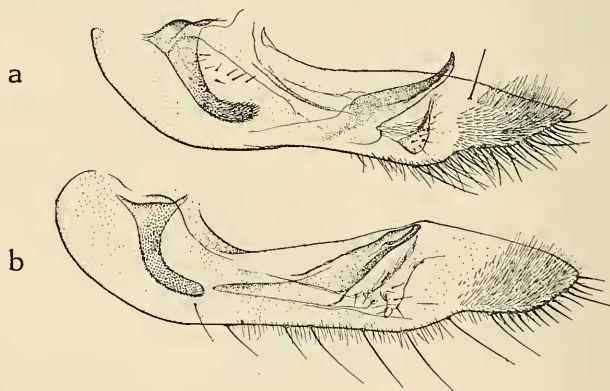


Fig. 6.

a. *Euplexia albovittata* Moore ssp.: Ardjuno, E. J., valva.

b. *Euplexia albovittata* Moore ssp. *culminis* Rpke., valva.

forming everywhere local populations, subspecies or perhaps even distinct species which could develop by geographic isolation. Such local populations may be rather variable, the differences between two or more of them, superficially as well as structurally, may be slight. A sharp demarcation of such "forms" is not yet possible, but it must be an interesting task if one has a rich material at one's disposal. I have given purposely many citations referring to the members of this group.

One (or several?) representants of this "complex species" are not rare in the mountains of Java. All specimens from Java, of which I have a rather nice series, are characterized by a dentiform processus of the median band in fw., on  $n_{1b}$ , directed inwards, just as figured by Moore for the topotypical species from Sikkim.

In the specimens under consideration this processus is absent. Nor can I identify them with the *Euplexia*'s described from Mt. Korintji, therefore, I introduce a new subspecific name, considering the oldest described species as the collective species. One of the ♂♂ has the median area of fw. whitish, with exception of the costal area. For this colour form, I introduce the name f. *variegata*, see pl. XIII, fig. 21.

The valvae of these Sum. ♂♂, differ very slightly from those of E. Java. Both are figured here as text fig. 6 a, b.

#### Subfam. *Euteliinae*.

##### 31. *Phlegetonia delatrix plusioides* Wlk.

Gn. (1852) 304 (*Penicillaria*): Java. — Wlk. XXXIII (1865) 822 ♂ (*Eutelia plusioides*): S.-Hindost. — Hps. (1894) 391, f. 218 ♂ (*Eut. del.*). — Sn. (1895) 143 (*Pen. del.*): Deli. — Hps. XI (1912) 82 ♂♀, f. 30 ♂. — de Joann. (1928) 330: Tonk. — Gaede-S. XI (1937) 360, pl. 32 i.

1 ♂, 32 mm; 1 ♀, 30 mm.

Geogr. Distr.: From India to Australia.

This pair belongs to the greyish form *plusioides* Wlk.

##### 32. *Eutelia suffundens* Wlk.

Wlk. (1864) 172 (*Anophia*): N.-Born.; id. XXXIII (1865) 917. — Swinh. (1900) 86 (*Targalla*). — Hps. (1902) 212 (*catephiformis*): Ass. — B.-Bak. (1906) 227 (*T. cateph. ekeikei*): N.-Guin. — Hps. XI (1912) 61, pl. 23 ♂. — Gaede-S. XI (1937) 357, pl. 32 f.

1 ♀, 29 mm.

Geogr. Distr.: Ass.; Singap.; Sum., Born.; New. Guin.

The specimens from Born. and Sum., which I have seen, are much darker than the figure in Seitz l.c., so that this figure is hardly recognizable. The frons, covered by the palpi, is without scales, smooth.

#### Subf. *Stictopterinae*.

##### 33. *Stictoptera cucullioides* Gn.

Gn. (1852) 52 ♂: Java? — Gaede-S. XI, (1937) 369, pl. 34 b. — Rpk. (1938) 26.

3 ♂♂, 2 ♀♀, 40—48 mm.

Geogr. Distr.: Africa, S.E. Asia including Larger Sunda-Isl.

The specimens are brownish grey, more or less variegated with brown or with a little greenish, one specimen with whitish dots in basal and discal area of fw.

The variability of this insect is boundless; most of the "species" described by Hps. and others, will prove to be synonyms of the old *cucullioides* Gn. only. If we regard the coloration and pattern of this insect only, dozens of "species" or more could be erected.

##### 34. *St. plumbeotincta* Prout.

Prout (1921) 7, pl. 1, f. 4: Ins. Rossel. — Gaede-S. XI (1937) 372, pl. 34 f. ♀: Ins. Rossel; Sum.

1 ♀, 32 mm.

Geogr. Distr.: Rossel Isl.; Sum.

A well preserved specimen, rather agreeing with the figures given by



Prout, l.c. and Seitz l.c.; I enlisten it here under this name, but I am not sure if it is really a distinct species; perhaps it is only a variety of the smaller *St. repleta* Wlk.

35. *Gyrtona ochreographa* Hps.

Hps. IX (1912) 216 ♂ ♀, pl. 179, f. 31 ♂ : Singap. — Prout (1926) 225 ♂ ♀ : Mt. Murud, N.-Born. — van E. (1932) 2 ♂ ♀ : Sibolga, Sum. — Gaede-S. XI (1937) 382, pl. 35 i : Singap.

1 ♀, 19 mm.

Geogr. Distr. : Singap. ; Sum. ; Born.

I ascribe the species to the genus *Gyrtona* on account of the dilatated second joint of antennae. Dorsal tufts on abdomen, however, are not discernible. For the rest, the specimen agrees rather well with Hps.'s figure. The ground colour of fw. is light ash grey; along costa more brownish grey, partially covered by numerous greyish brown or purplish brown cross lines, more or less indistinct in basal area. Also indistinct are orbiform and reniform, at the utmost they are indicated by some lighter and darker dots. The postmediana is more distinct, very oblique, but rather straight, only near mc it is slightly bent inwards. It consists of a number of fine, brown and grey lines, more numerous and clearly visible in costal area. Termen with a row of marginal dots; cilia uniformly light brownish grey. Hw. light grey, basal area rather hyaline. Underside without markings, fw. somewhat darker, hw. somewhat lighter grey, strongly shining.

Subf. *Westermanniinae*.

36. *Carea venusta* Warr.

Warr. (1912) 41 ♂ : Mal. — Rpk. (1938) 33 ♂ : Mal. — Gaede-S. XI (1938) 438 ♂ : Mal.

1 ♂, 40 mm; 1 ♀, 36 mm, allotypus!

Geogr. Distr. : Hitherto only known from Mal.

A beautiful, conspicuous, dark red species. The ♂ with the fw. very dark, rather without any markings, only reniform indicated by a lighter, ferrugineous dot. ♀ similar to ♂, but on fw. with some more ferrugineous. Hw. pure white, along margin slightly crimson.

I have a second Sum. ♂ from Brastagi, E.C. Sum., leg. Uil, with the crosslines in fw. slightly more distinct.

37. *C. proutiae* Rpk.

Rpk. (1935) 273 ♂ ♀, pl. 13, f. 9 ♂ : Sum. ; N.-Cel.

1 ♂, 40 mm; 1 ♀, 39 mm.

Geogr. Distr. : Sum. ; Java ; Cel.

The hw. in ♂ uniformly dull grey, in ♀ with the outer area light reddish.

The species belongs to the group *pallida* Hps. : Burma; *sabulosa* Warr. : Sik. and *loxoscia* Prout : Sum. Later examinations have to point out if they belong to the same collective sp. or not.

I indicated the form from the mountains of W. Java as *Carea proutiae sundanensis*, see Rpk. (1935) 274. It is smaller and paler than the specimens from Sum., hw. lighter, chiefly in worn specimens, sometimes very light, mostly light reddish, only anal area greyish.

38. *C. longicornis* Prout.

Prout (1924) 417 ♂ ♀, pl. 22, f. 8 ♂ : Korintji, 7300', Sum. — Gaede-S. XI (1938) 432, pl. 41 f : Sum.

1 ♂, 39 mm; 1 ♀, 38 mm.

Geogr. Distr. : Sum. ; Java.

Hw. in ♂ very light, in ♀ mostly reddish, in anal and basal area more greyish. Fw. in ♀ very dark scaled. The figure in Seitz l.c. is bad and unrecognizable. The species belongs to the group *nitida* H p s. : Sik., perhaps it is only a subsp. In Java, it is represented by *C. longicornis malabarica* R p k e. (1935) 274.

39. *C. rubiginosa* R p k e. Pl. XIII, fig. 7 ♀.

R p k e. (1935) 275 ♂ : Fort-de-Kock, Sum.

1 ♂, 38 mm; 1 ♀, 40 mm, allotypus!

Geogr. Distr. : Sum.

I ascribe the pair under consideration to this species. The ♂ has the fw. purplish brown red, with three very indistinct, darker cross bands, the antemediana straight and nearly perpendicular on hind margin. The median one, very indistinct, weakly and irregularly undulating. A very weak and undulating marginalis is hardly visible. Reniform indicated by a weak, dark dot. Hw. light reddish yellow, near anal margin light greyish.

Underside in both sexes light brownish, with a weak reddish tinge on hw. scattered with brownish scales.

40. *Maurilia iconica* W l k.

W l k. XIII (1857) 992 ♀ (*Anomis*) : Ceyl. — S w h. (1900) 98 (*Churia*). — H p s. XI (1912) 573 ♀ ♂ (*Maur.*). — T a m s (1924) 238 : Siam. — d e J o a n. (1928) 346; (1929) 771; Tonk. — R p k e. (1938) 37 ♀ : Ind. — G a e d e - S. XI (1938) 441, pl. 41 f.

1 ♀, 31 mm.

Geogr. Distr. : India to New Guin.

I have a second specimen, from Brastagi, E.C. Sum., leg. U i l.

41. *Chloroplaga pallida* W a r r. Pl. XIII, fig. 24 ♀.

W a r r. (1916) 217 ♀ ♂ : Mal.; Penang.

1 ♀, 31 mm.

Well agreeing with W a r r e n's species, by the reduced fw.-markings; perhaps only a subsp. of *Chl. nygmia* S w h.

In Java, a nearly related species occurs which stands between *nygmia* S w h. and *pallida* W a r r., regarding the fw.-markings. It may bear the name *Chloroplaga javana* n.sp., and may also prove to be a subsp. of *nygmia* S w h. 1 ♂, Mt. Bengbreng, W. J., leg. W a l s h (coll. Wag.).

42. *Tortriciforma viridissima* n.sp. Pl. XIII, fig. 16 ♀.

♀. Antennae filiform, about  $\frac{3}{4}$  costa fw. Eyes naked, ocelli precent. Palpi long, straight, surpassing height and breadth of head, third joint nearly as long as second, both adpressedly scaled, the second with a thin and coarse, erect pilosity. Head roughly hairy. Costa of fw. arched, at apex pointed, termen dentate, hooked at  $n_6$  and  $n_2$ ;  $n_2$  and  $n_4$  remote at base,  $n_5$  from near base of  $n_4$ , mc open,  $n_6$  and  $n_7$  from upper angle of mc, free;  $n_8$ ,  $n_9$ ,  $n_{10}$  stalked. No areola. In hw., mc closed, dc angled,  $n_3$  and  $n_4$  decidedly stalked,  $n_5$  strong, from near base of  $n_{3-4}$ ;  $n_6$  and  $n_7$  free from upper angle of dc,  $n_8$  connected with base of upper mc-border. On account of these features, the species ranges into *Tortriciforma* H p s.

Head, thorax and fw. upperside vividly emerald green, shining, the latter with an irregular pattern of cross bands and dots, especially at base and costa, the dots somewhat condensing into an irregular oblique antemediana. Antemarginalis indistinct, strongly dentate; black marginal dots present. Costa, near arching, with lighter dots on upper- and underside. Hw. and abdomen light grey, the former without markings. Cilia

in both wings green. Underside light brownish grey, strongly shining. Pilosity of the first two pairs of legs greenish, of hindlegs whitish. The sole specimen unfortunately rather worn, antennae damaged.

1 ♀, 19 mm, holotypus.

Subfam. *Catocalinae*.

43. *Sypna cyanivitta* Moore.

Moore (1867) 70 ♂ : Beng. — Btl. (1881) 209 : Sik. — Waterh. (1882—96) pl. 159, f. 4. — Hps. (1894) 448. — Warr.-S. III (1913) 365, pl. 67 b ♂, c ♀ (as *cyanovitta*!).

Geogr. Distr. : From S. China extending into the Archipelago.

2 ♀♀, 45 and 48 mm.

Two identical specimens, both earth brown, the fw. with a large, slightly lighter brown apical patch ; a mediana and antemediana, as well as a somewhat indistinct basal cross line, bluish white, sharp, double.

The same species is not rare in the mountains of Java. It is extremely variable, the crosslines more or less brown and distinct or entirely dilute, the median area may be lighter, partially filled up with bluish white, as in the nominotypical specimens. Orbifer sometimes indicated by a lighter dot.

For the rest, it must be stated that the definition of the species of this genus is far from being definite, as this is the case with many other genera in the so called *Catocalinae-Ophiderinae*. The identification of the species, therefore, remains more or less uncertain. Only a careful reexamination of the whole group, based on morphological structures as well as on the type-specimens, may clear up this undesirable situation.

44. *S. caelisparsa* Wlk.

Wlk. XIV (1858) 1262 ♀ : Ass. — Btl. (1881) 204 ; id. (1886) 41, pl. 111, f. 4. — Hps. (1894) 446 : Ass. ; Java. — Rthsch. (1920) ♀ : Barisan 4000', Sum. — van E. (1932) 3 : Sibolga, Sum.

2 ♂♂, 50 mm.

Geogr. Distr. : India ; Sum. ; Java.

Two rather identical specimens, without the purplish hue which Btl. l.c. reproduces in his figure, and without being suffused with white.

I selected the name under which the same insect is represented in the Leiden Museum. The remarks under the foregoing species, however, make it clear that the identification in future needs corroboration.

45. *Arcte modesta* v. d. Hoev.

v. d. Hoev. (1840) 282, pl. 7, f. 8 (*Catocala*) : Java. — Sw h. (1900) 131.

1 ♀, 72 mm.

Geogr. Distr. : India ; Sum. ; Java.

The specimen has the apical area in fw. lighter brown and rather distinctly defined, like a lunar patch. Abdomen underside obviously yellowish dotted.

The species is not rare in the mountains of Java.

46. *Dermaleipa javanica* Gaede.

Gaede (1917) 199 ♂ ♀ : W.-Java. — Prout (1924) 438 ♂ ♀ (*joiceyi*) : Korintji, Sum. — Gaede-S. XI (1938) 471, pl. 49 d (as *javanensis*).

4 ♂♂, 72—80 mm.

Geogr. Distr. : Java ; Sum.

A conspicuous, beautiful, very variable insect, in the mountains of Java

by no means rare and, therefore, since a century or so, represented in European collections, under different erroneous names, until it became described recently. By the colour and markings of fw., it mimicks dry leaves, and as it is often the case, this mimicry pattern shows a great variability.

**47. *Archaea mercatoria* F.**

F. (1775) 604 (*Noctua*): Ind. or. — R p k e. (1932) 93 (*Ophiusa melicerte* Drury); id. (1938) 49 (*A. merc.*). — G a e d e - S. XI (1938) 480, pl. 52 f.

3 ♂♂, 55—71 mm; 3 ♀♀, 60—63 mm.

Geogr. Distr.: From Afr. extending over the whole Indoaustr. and Oceanic Region.

Extremely variable. The specimens belong to a rather uniform, reddish of greyish brown "form", with weak markings, the bluish white dots as well as the hw.-cross markings reduced. Third joint of palpi in ♂ distinctly shorter and more acute than in ♀.

***Paramocis* n.g.**

Resembling *Mocis* H b., antennae in ♀, however, more strongly ciliate, third joint of palpi very short and blunt. Frons, as far as covered by the palpi, smooth, without scales. In fw.,  $n_3$ ,  $n_4$  and  $n_5$  from lower angle of mc,  $n_6$  from uper angle. Areola very narrow, with  $n_{7-8}$  originating from it on a long stalk. Legs in both sexes moderately pilose, fore legs in ♂ with long tufts on coxa and femur (scent organ). Abdomen in ♂ with segmental lateral tufts, directed downwards, their length at least the same as diameter of abdomen.

Typus: *P. maculata* R p k e.

**48. *P. maculata* n.sp. Pl. XIII, fig. 23 ♀.**

Head, palpi, patagia and fore legs beautifully ferrugineous. Thorax smoothly scaled. Fw. about light leather brown; nearly without markings, with a very weak indication of dilute, darker cross lines. Only at middle of costa a dark brown, double dot, below it, another dark brown dot, in the place of a reniform. Cilia of ground colour, with faint, brown marginal dots. Hw. lighter yellowish brown, with a darker, grey submarginal band. Abdomen without dorsal tufts, upper- and underside yellowish grey. Underside of hw. more yellowish, on fw. with an indication of a dark dc-dot, and with a weak, dark, curved postmediana.

1 ♀, 34 mm, holotypus; 1 ♂, 25 mm, allotypus, from Tandjong Sakti, Benkulen, S. Sum. (coll. Wag.), rather worn, appears more greyish, the fw.-dots more obvious, hw. more uniformly grey, head and patagia ferrugineous yellow, thorax and abdomen light grey.

**49. *Sympis rufibasis* G n.**

G n. (1852) 344, pl. 24, f. 1: Java. — d e J o a n. (1929) 365: Tonk. — R p k e. (1938) 53 ♀: N. Cel.

1 ♀, 34 mm.

Geogr. Distr.: From India extending through the Mal. Arch., reaching Ambon.

***Acygonia* n.g.**

Antennae in ♂ strongly fasciculate, on the backside with long and erect hairs, length about  $\frac{3}{4}$  costa, in ♀ simply filiform. Palpi in ♂ with the second joint enlarged and flattened, about hatchet-like, third joint as a short stump, from lower angle of second. The ♀ with the second joint somewhat more slender, the third short, conical, pointed. Frons

under the palpi smooth, scaleless. Proboscis well developed. Ocelli minute. Head and thorax long and densely hairy. Fw. in both sexes with the apex falcate, termen on  $n_6$  slightly projecting, in ♀ more than in ♂. Hw. margin rounded, anal angle rectangular, in ♀ the margin on  $n_4$  strongly projecting. Fw. with mc open,  $n_3$ ,  $n_4$ ,  $n_5$  from lower angle of mc, with their bases approximate;  $n_6$  from upper angle of mc. Areola narrow,  $n_7$  free,  $n_{8-9}$  on a long stalk,  $n_{10}$  free. Hw. with mc open,  $n_3$ ,  $n_4$  and  $n_5$  from lower angle of mc. In ♂, all legs except tarsi, with an enormously developed, dense pilosity, this light brown pilosity of hind legs with some black tufts. In ♀, the legs less hairy than in ♂. Abdomen hardly of not surpassing anal angle of hind wings. The genus comes near *Oxygonitis* H p s. (1893 a) 103.

Typus: *A. difformis* R p k e.

50. *A. difformis* n.sp. Pl. XIII, fig. 5 ♂.

♂. Palpi dark brown, head, antennae and fw. except outer halfth, light brown. Outer halfth of both wings dark brownish grey, bordered by a sharply defined, light, straight postmediana in fw. and by a mediana in hw. Darker crosslines and outlines of orbifer and renifer hardly indicated. Cilia dark brown. Underside much lighter yellowish brown, on both wings with two dark brown, straight, parallel cross lines.

♀. Heteromorphic, in as much as outer halfth of both wings not being darkened, but as the entire upperside, light purplish brown, with some scattered, black scales. Postmediana in fw. and mediana in hw. very distinct, sharp, straight. Underside the same as in ♂.

1 ♂, 41 mm, holotypus. Furthermore, 2 ♂♂, 43—45 mm, paratypes, and 1 ♀, 45 mm, allotypus, from Brastagi, S.O.K., leg. Uil; 2 ♂♂, 45—46 mm, 2 ♀♀, 38—42 mm, from Perbawatee, W. Java, leg. Walsh; 1 ♂, 48 mm, Mt. Ardjuno, E. Java, leg. Kalis. All specimens, except holo- and allotypus, in coll. Wageningen.

Subfam. *Ophiderinae*.

51. *Arthisma rectilinea* n.sp. Pl. XIII, fig. 14 ♂.

♂. Very near *A. scissuralis* Moore, especially with regard to the coloration. Fw., however, with an obvious, very straight mediana, beginning shortly below costa, crossing the wanting reniform and reaching hind margin perpendicularly. This mediana is dark reddish brown, inwards bordered with grey, outwards with yellow.

1 ♂, 30 mm holotypus.

The Leiden Museum has three specimens from Fort-de-Kock, leg. Jacobson, paratypes. They are quite the same.

52. *Ossonoba torpida* Wlk.

Wlk. XXXV (1866) 1966 ♂ : Sik. — R p k e. (1935) 279 ♂ ♀ : Sum.; Batjan.

1 ♀, 34 mm.

Geogr. Distr.: Only known from the localities cited, but presumable of a wider distribution.

The species is nowhere numerous, perhaps this explains, why its geographical distribution is not yet completely known.

53. *Hypocala deflorata* F.

F. (1793) 472 (*Bombyx*): America (ex. err.?). — de Jo an. (1929) 372, 755: Tonk. — R p k e. (1338) 41 ♀ : Cel.

1 ♂, 35 mm.

Geogr. Distr.: Afr.; S.E. Asia and the Mal. Arch.



Fw. with the markings rather distinct, chiefly the antemarginalis, hooked in its centre, easily recognizable.

The species is fairly common in the mountains of W. and E. Java.

54. *Briarda praecedens* Wlk.

Wlk. XIII (1857) 1098 ♂ ♀: Ceyl.; N.-Ind.; id. ib. 1099 ♀ (*antece-dens*): Sum. — Moore (1867) 66; id. (1885) 98, pl. 156, f. 8. — Btl. (1886) 37, pl. 110, f. 7 ♂. — Pgst. (1888) 141: Amb. — Röb. (1891) 328: Ins. Key. — Btl. (1893) 45 (*Felinia*). — Hps. (1894) 469 (*Polydesma*).

1 ♂, 42 mm.

Geogr. Distr.: Ind., S.E.-Asia and the Arch., reaching Ambon and the Key-Is.

A characteristic Noctuid, not easily to confound with other species. ♂ on legs with an obviously strong developed pilosity.

55. *Felinia spissata* Gn.

Gn. 1852) 322 ♂ (*spissa*), 400 (corr.: *spissata*): N.-Ind. — Rpk. (1938) 43 ♀: N.-Cel.

1 ♂, 49 mm; 2 ♀ ♀, 39 and 43 mm.

Geogr. Distr.: Ind., S.E.-Asia and Mal. Arch., reaching the Phil.

56. *Ericeia inangulata* Gn.

Gn (1852) 210 ♂ ♀ (*Hulodes*): N.-Ind. — Hps. (1894) 470 p.p. ? (*Polydesma*). — Pgst. (1894) 37: Java; id. (1896) 162: Sumbawa. — Warr.-S. (1913), 363, pl. 66 e ♂ ♀ (*Er.*). — Tams (1926) 247: Siam. — de Joan. (1929) 363: Tonk.

1 ♂, 47 mm; 2 ♀ ♀, 40 and 45 mm.

Geogr. Distr.: From N. Ind. extending over the entire Indoaustr. region?

The ♂ is dull brownish grey, the numerous cross lines on both wings indistinct, antemarginalis only slightly curved. Fw. apex only with a trace of a lighter patch. The dense pilosity of hind legs not extending to the last 3—4 joints of tarsi. The ♀ ♀ display rather a clay colour, with the cross lines nearly wanting, only the antemarginalis well developed, in its centre moderately curved. Apex with whitish grey patches.

As already pointed out previously (Röepke 1938), the *Ericeia* species belong to those Noctuids which are difficult to determine, a good revision being still a desideratum. Probably Hps. l.c. has lumped together at least two species, viz. *inangulata* Gn. (pilosity of ♂ hindlegs not reaching tip) and *eriphora* Gn. (pilosity of ♂ hindlegs reaching tip). In literature, the species are badly confounded.

57. *Cephena costata* Moore. Pl. XIII, fig. 6 ♂.

Moore (1882) 196, pl. 6, f. 17: Khas.; Darj. — Hps. (1895) 28 ♂, f. 11 ♂: Sik.; Khas.

1 ♂, 42 mm.

Geogr. Distr.: Himal.; Sum.; Java.

A very characteristic species, here for the first time recorded from the Archipelago. The description by Hps. l.c. is perhaps a little inaccurate, at least the specimen under consideration does not match his statements completely. The antennae, which he calls „serrate”, are very different from what he figures as “serrate” in his Moths I (1893), fig. 2, nr. 8, rather they agree with nr. 4, “fasciculate”, but the hairtufts are stronger; seen from aside, the antennal joints are downwards enlarged rhomboidally. They correspond better with the type “lamellate and ciliate”, as figured by Janse (1932) 13, fig. 3b. Moreover, the palpi are not

„sickle-shaped”, but rather straightly porrect, second joint hardly curved, the third straight and rather thin, as long as second. The white frontal tuft is long and pointed as a painters brush, surpassing a little joint 2 of antennae. In H p s.'s figure, l.c., it is absent! The presence of such a frontal tuft makes it less probable that the palpi should be „sickle-shaped”. The peculiar dark line in fw., from apex to base is in reality a narrow fold, including three silvery white dots (scent organ?).

The Mus. Leiden has 1 ♀ from Java.

58. *Capnodes finipalpis* Wlk.

Wlk. XV (1858) 1574 ♀ (*Thermesia*): Ceyl.; id. ib. p. 1608 ♂ (*Capnodes? maculicosta*): Ceyl. — Moore (1885) 211 (*C. mac.*). — Sw h. (1890) 257. — Btl. (1892) 128. — H p s. (1893a) 116, pl. 166, f. 1 ♂, 8 ♀; id. (1895) 20, f. 8 ♂. — Sw h. (1900) 192 (*C. fin.*); id. (1903) 81 ♀: Mal.

1 ♂, 35 mm.

Geogr. Distr.: Ceyl.; Mal.; Sum.; Born.; Java.

This ♂ belongs to the form with white costal dots. Hitherto not recorded from Sum. and Java, but I have several specimens from these islands.

59. *Hydrillodes toresalis* Wlk. Pl. XIV, fig. 3 (♂ gen.).

Wlk. XIX (1859) 875 ♂ (*Bleptina*): Saraw., Born. — R p k e. (1938) 66 ♂: Cel.

3 ♂♂, 24—25 mm.

Geogr. Distr.: India?; Mal. Arch. extending to?

As Miss P r o u t (1928) 485 has shown H p s. is wrong when synonymizing this species with *abavalis* Wlk. (1858) 196 ♂ (*Echana*): Ceyl.; N. Born. The ♂ has the wings broad, in fw. the costal fold with a lot of yellowish brown scent hairs. The venation the same as in the following species, dc a little stronger, though still weak. H p s.'s fig. (1895) 55, f. 27 ♂, shows a different venation. The ♂ palpi are compress, second joint somewhat enlarged apically and there with an elongated pilosity, the third about  $\frac{1}{2}$  length of second, slender conical.

♂ genitals (pl. XIV, fig. 3) with the valva antlered, the three branches again with spines. Aedeagus short, apically thickened, with three sharp spines exteriorly and a large number of dense spiculi interiorly.

60. *H. nubeculalis* n.sp. Pl. XIII, fig. 22 ♂, pl. XIV, fig. 4 (♂ gen.).

It is somewhat dared to describe a new *Hydrillodes*, but when comparing all descriptions known to me, chiefly of the Borneo species by Miss P r o u t (1928a) 485—490, there remains no other possibility. Fortunately sufficient material is at hand.

♂. Antennae very finely serrate and ciliate. Second joint of palpi long, curved, equally thick, the third of about  $\frac{2}{3}$  length of second, somewhat more slender and blunt. Fw. amply twice as long as broad, with costal fold at outer halfth;  $n_3$ ,  $n_4$  and  $n_5$  on a long stalk, from lower angle of mc; dc very weak, mc therefore practically open. The interpretation of the other veins only possible if one assumes that  $n_9$ , originally on a long stalk with  $n_8$ , as in ♀, is lost or is fused with  $n_8$  over its whole length. In this case,  $n_6$ ,  $n_7$ ,  $n_8$  with  $n_{10}$  and  $n_{11}$  originating from near upper angle of mc, with their bases approximate,  $n_{10}$  and  $n_{11}$  being very short, the former perhaps connected with the thickened margin of costal fold.

In ♀, the fw. venation normal,  $n_8$  and  $n_9$  on a long stalk.

All specimens in both sexes uniformly earth brown, except hw.; hardly variable, without lighter crossbands on fw. The latter only with three

more or less indistinct darker crosslines, reniform and orbiform indicated by some weak dots only. Hw. lighter greyish, with two darker shade bands. Underside lighter or darker grey brown; fw. without, hw. with an indistinct, dark crossline and dc-dot.

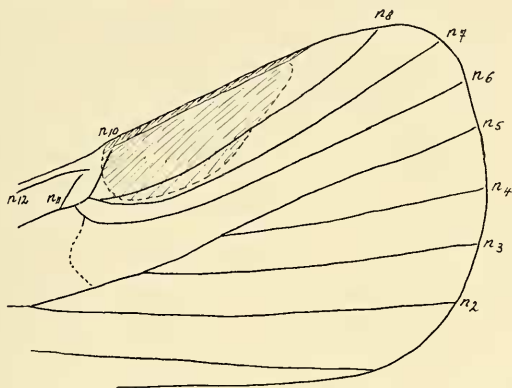


Fig. 7. *Hydrillodes nubeculalis* n. sp. ♂ fw.-venation.

♂ genitals, pl. XIV, fig. 3, belonging to the type of the preceding species, valva however only with two branches.

9 ♂♂, 27—28 mm, holo- and paratypes; 7 ♀♀, 30—32 mm, allo- and paratypes.

The coll. Wag. has 1 ♂ and 7 ♀♀ from Java, which I am inclined to ascribe to the same species. The localities are as follows: Lebak Saat, Mt. Gedeh, 2400 m, 4 ♀♀, leg. T o x o p e u s; Tjileueur, Mt. Patuha, 2100 m, leg. T o x o p e u s; E. J. 1 ♂, Mt. Ardjuno, E. J. 1 ♀, both leg. W a l s h.

The species is apparently an inhabitant of the highest mountain regions. Mixed up with other species, it can be separated at the first glance by its lighter hw., with darker crossbands.

The species comes perhaps near *H. melanozona* Coll. (1928) 481 ♂♀, pl. 21, f. 6 ♂: Ins. Rapa, French Oceania. One could become inclined to identify it with it, were it not that the diagnosis points out some differences. F.i. the structures at base of ♂ abdomen, as described, by Coll., are wanting. The markings are less sharp, the light costal patches are absent too. Moreover, Coll. does not mention the costal fold near base of ♂ fw.; does it want? In his figure, this structure is not recognizable.

61. *H. subtruncata* n.sp. Pl. XIII, fig. 15 ♂; pl. XIV, fig 2 (♂ gen.).

♂. Belongs to the group *truncata* Moore, (1882) 198 and *pertruncata* Prout (1928) 489. Antennae filiform, finely ciliate, not serrate. First joint of palpi comparatively short, second moderately curved, third straight, pointed, length amply  $\frac{1}{2}$  of second. Pilosity of palpi short, adpressed, uniform. Frons without scales, smooth. The upperside with easily loosening, coarse scales of a sooty brown black coloration. Near base and within the broad mc with brownish yellow dots, bordered by indistinct, darker cross lines. On dc, a whitish cross band, at its inner side darkly bordered, extending towards inner margin. Hw. light grey, along apex and outer margin slightly darker brownish grey, with a light greyish median band and a darker dc-dot. Hw. underside light grey.

with greyish cross bands. Fw. underside greatly shaded with sooty black.

Fw.-venation rather different from the previous species,  $n_2$  and  $n_3$  originating from before lower angle of mc,  $n_4$  and  $n_5$  on a short stalk; fig. 8 shows the arrangement of  $n_7$ ,  $n_8$ ,  $n_9$  &c.

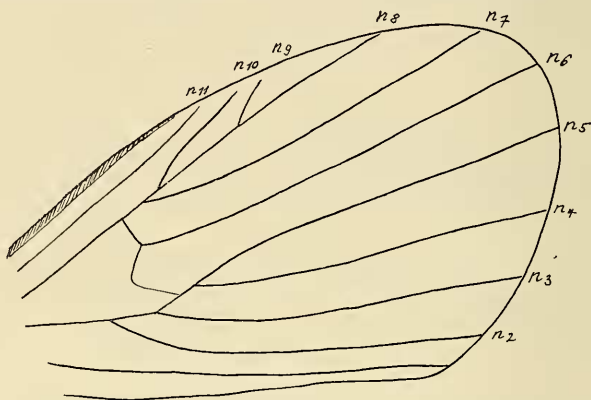


Fig. 8. *Hydrillodes subtruncata* n. sp. ♂ fw.-venation.

The ♂ genitalis closely allied to those of the previous species, the valvae as an antler with two prongs, see pl. XIV, fig. 2.

2 ♂♂, 28 mm, holo- and paratypus.

Miss Prout (1928) 490 enters the question whether at least a new subgenus for this group should be erected. She overlooks that Moore (1882) created the genus *Bibacta* for his *truncata*. This name, therefore, comes into consideration. On account of the ♂ genitalis, however, the species can be placed in *Hydrillodes* without difficulty.

## 62. *Hypena calligraphalis* n.sp. Pl. XIII. fig. 8 ♂.

The same remarks which are made for *Hydrillodes*, hold much more if one is obliged to describe a new *Hypena*.

♂. Antenna serrate, in the middle much more than at base, weakly ciliate. Eyes obviously large, globose, no ocelli. Second joint of palpi above and below broadly scaled, third joint about  $\frac{2}{3}$  of second only at base broadly scaled, apical portion smooth and therefore apparently narrower than base. Fw. broad, with the termen moderately rounded, apex rather blunt. The general coloration is a beautiful brown red, with vivid lighter and darker markings. Cross lines distinct, antemediana lighter, sharply dentate, its outer border marked with brown. Orbifer indicated by a thick, dark dot; renifer rather clear by a dark, crescent shaped marking. Postmediana also sharply curved, bordered darker interiorly, lighter exteriorly. Veins in terminal area lighter brown, with white dots between them. A light brown, irregular, oblique streak from apex. Terminal edge with dark triangular dots. Cilia alternately lighter and darker brown. Hw. uniform grey brown, without markings, cilia less strongly dotted. Head, notum and abdominal tufts beautifully brown red, abdomen lighter grey. Hw. underside lighter, more yellowish brown, irrorated with dark scales, with a distinct, dark median cross line and a dark dc-cot, but with a white apical dot in  $c_7$ . Legs darker brown haired and scaled, tarsi annulate.

1 ♂, 31 mm, holotypus.

The species has a considerable similarity to *H. epigaea* Sw h. (1906) 552 ♂: Padang, Sum., and belongs certainly in the same group as *epigaea*; the Leiden Mus. has 1 ♂ labelled: "Fort-de-Kock, 920 m, Oct. 1922, E. Jacobson". It has a determination label by Miss Prout: "comp. type".

*Calligraphalis* agrees with *epigaea* concerning the general pattern and coloration. The antennae, however, are obviously thicker, the fw.-termen more rounded, the apex, therefore, more blunt. The markings are sharper, antemediana stronger dentate, postmediana stronger undulate. The coloration is more vivid and variegate, the apical streak brown and less contrasting. Characteristic are the antemarginal, white dots between the veins. Underside with the crosslines more distinct.

#### ABBREVIATED LITERATURE.

*Aur.* (1894): Aurivillius: Ent. Tidskr. XV. — *B.-Bak.* (1906): Bethune-Baker: Nov. Zool. XIII. — *Bryk* (1934, 1937): Bryk: Lep. Cat. pars 62 (Lymantr.), pars 82 (Callimorph., Nyctem.). — *Btl.* (1881): Butler: Tr. Ent. Soc.; id. (1881a): Ill. typ. spec. &c V; id. (1887): ib. VII; id. (1892): Pr. Zool. Soc.; id. (1893): The Ent. XXVI. — *Coll.* (1928): Collenette: Tr. Ent. Soc. LXXVI; id. (1932): Nov. Zool. XXXVIII; id. (1938): J. Fed. Mal. St. Mus. XVIII/2. — *Dohrn* (1906): Stett. Ent. Ztg. LXVII. — *Drury* II (1773): Exot. Ins. &c. — *van E.* (1927): van Eecke: Ent. Ber. VII; id. (1930): Het. Sumatr. (separaat); id. (1932): Misc. Zool. Sum. LXIX. — *F.* (1775): Fabricius: Syst. Ent.; id. (1793): Ent. Syst. III/I. — *Fld.* (1874): Felder: Lep. in Reise Novara II/2. — *Gaede* (1917): Stett. E. Z. LXXXVIII; — *Gaede-S.* X, XI; Seitz, Gross-Schm. X, XI. — *Gn.* (1852): Guenée; Noctuérites; id. (1857): Ur. & Phal. — *Guér.* (1843), Guérin in Delessert: Souv. Ind. — *Hering-S.* X: Seitz, Gross-Schm. X. — *Heyl.* (1890): Heylaerts C.-R. Soc. Ent. Belg. XXXIV. — *Hps.* (1891): Hampson: Illustr. &c. VIII; id. (1893): Fauna Br. Ind. Moths I (1892, rect. 1893!); id. (1893a): Ill. &c. IX; id. (1894): id. Moths II; id. (1902): J. Bomb. N.H. Soc. XIV; id. (1905, 1908, 1909, 1911, 1912): Cat. Lep. Ins. Br. Mus. V, VII, VIII; X, XI. — *v.d. Hoef.* (1840): van der Hoeven: Tijdschr. Nat. Gesch. VII. — *Janse*: (1937, 1938): Moths of S. Afr. III. — *de Joan.*: (1928, 1929): *de Joannis*: Ann. S.E. France XCVII, XCVIII. — *Jord.-S.* (1911): Jordan in Seitz l.c. X. — *Kalis* (1934): Ent. Rundsch. LI. — *L.* (1766): Linnaeus: Syst. Nat. ed. XI/2. — *Leech* (1900): Tr. E.S. — *Lempke* (1939): Tijdschr. v. Ent. LXXXII. — *McDunnough* (1928): Bull. 55, Biol. Ser. 16, Nat. Mus. Canada. — *Moore* (1859): Horsfield & Moore, Cat. Lep. Ins. E. I. House II; id. (1867): Pr. Z. S.; id. (1883): Lep. Atkins.; id. (1883): Lep. Ceyl. III. — *Oberth.* (1916): Oberthür: Ét. Léop. Comp. XII. — *P. & S.* (1906): Piepers & Snellen: T. v. E. XLIX. — *Pgst.* (1884): Pagenstecher; Jhrb. Nass. Ver. f. Naturk. XXXVII; id. (1887): ib. XL; id. (1888): ib. XLI; id. (1899): ib. XLII; id. (1901): ib. LIV; id. (1902): Callidul. in Das Tierreich, Lief. 17; id. (1911): Lep. Cat. pars 2. — *Prout* (1921): Ann. Mag. N.H. [9] VIII; id. (1924): Bull. Hill. Mus. I; id. (1926): Saraw. Mus. J. III; id. (1928): Bull. Hill. Mus. II; id. (1928a): Saraw. Mus. J. III. — *Reich* (1932): Internat. Ent. Ztschr. XXVI/22. — *Röb.* (1891): Röber: T. v. E. XXXIV. — *Rpke.* (1932): Roepke: Mém. Mus. Roy. N.H. Belg., h.s. IV/6; id. 1935: Zool. Mededeel. XVIII; id. (1935a): Misc. Zool. Sum. XCIX; id. (1938): Bull. Mus. Roy. N.H. Belg. XIV. — *Rthsch.* (1920): Rothschild: Journ. Fed. Mal. St. Mus. VIII/III. — *Schultze* (1908): Phil. J. Sci. A/III. — *Sn.* (1895): Snellen: Iris VIII; id. (1898): T. v. E. XLI; id. (1899): ib. XLII; id. (1902): ib. XLV. — *Sn. v. V.* (1863): Snellen van Vollenhoven: Bijdr. Dierk. I. — *Sw h.* (1900): Swinhoe: Tr. E. S.; id. (1892): Cat. Ox. I; id. (1900): ib. II; id. (1903): Fasc. Mal. Lep. Het.; id. (1905) A.M.N.H. [7] XV; id. (1906): ib. XVII; — *Talb.* (1929): Talbot: Bull. Hill. Mus. III. — *Tams* (1924): J.N.H. Soc. Siam VI. — *Waterh.* (1886—92): Waterhouse: Aid to the identif. of ins. II. — *Warr.* (1888): Warren: Pr. Z. S.; id. (1912): Nov. Zool. XIX; *Warr.-S.* (1912, 1913): Seitz l.c., III, X, XI; *Warr.* (1916): Nov. Zool. XXII. — *Wilem.* (1911): Wileman: The Ent. XLIV. — *Wlk.* VII (1856), XIII (1857), XIV (1858), XVI (1858), XXXI (1864), XXXV (1866); id. (1862). J. Pr. Linn. Soc. Lond. VI.



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